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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>24 June 2008</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-35</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-35</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>2/11/08 (sheet 1 only) ,6/24/08</u>.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   Claims 1-35 are pending; claims 1, 13 and 21 independent.

Information Disclosure Statement

2.   The IDS dated February 11, 2008 and June 24, 2008 has been considered. See

PTO-1449.

Double Patenting

1.   The nonstatutory double patenting rejection is based on a judicially created
doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the
unjustified or improper timewise extension of the "right to exclude" granted by a patent
and to prevent possible harassment by multiple assignees.   A nonstatutory
obviousness-type double patenting rejection is appropriate where the conflicting claims
are not identical, but at least one examined application claim is not patentably distinct
from the reference claim(s) because the examined application claim is either anticipated
by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140
F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29
USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir.
1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422
F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163
USPQ 644 (CCPA 1969).
        A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d)
may be used to overcome an actual or provisional rejection based on a nonstatutory
double patenting ground provided the conflicting application or patent either is shown to
be commonly owned with this application, or claims an invention made as a result of
activities undertaken within the scope of a joint research agreement.
        Effective January 1, 1994, a registered attorney or agent of record may sign a
terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with
37 CFR 3.73(b).

    Claims 1-32 are provisionally rejected on the ground of nonstatutory obviousness-

type double patenting as being unpatentable over claims 21-40 of copending

Application No. 11/468,613. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claim language of the '613 application essentially recites the exact same limitations as its parent case, the instant application.

This is a _provisional_ obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Although Applicant has reserved action on this rejection until allowance of one of the cases, the rejection will be maintained until a Terminal Disclaimer has been filed, or the claims are amended such that they are patentably distinct from one another.

Claim Rejections - 35 USC § 103

2.   The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 2, 4, 5-7, 9-11, 21, 22, 24, 25-27, 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bestavros et al. (USPN 6,370,584) (cited as prior art in previous Office Action) (hereinafter Bestavros) in view of Mukherjee et al. (USPN 6,466,978) (hereinafter Muhkerjee).

3.   Referring to claim 1, Bestavros discloses a method of selecting a server from a plurality of servers (i.e. host computers) to service a request for content, comprising:

designating a director from the plurality of servers to receive the request, wherein the designation is made on a request-by-request basis, wherein any of the servers can be selected as the director (i.e. the request is received by a particular host computer, and any host computer can receive the request at any time) (e.g. abstract);

determining whether the content is stored on the director by accessing a state table stored on the director, wherein the state table includes parametric information (i.e. load values) for each server in the plurality of servers (i.e. determining whether to service or reroute the request based on a criteria, such as current load, and availability of data for the resource) (col. 3, lines 35-55);

if the content is not stored on the director, under direction of the director, determining whether any of the servers has the content stored thereon by examining the state table (i.e. if the director does not have the particular data, it is going to have to reroute the request, and based on the state table, it will determine which server has data available for the request) (col. 3, lines 35-55);

determining a load factor for the other servers having the content (col. 3, lines 35-55); and

selecting one of the other servers based on the load factor (i.e. reroute requests based on conditions such as current load) (col. 3, lines 35-55).

Bestavros does not explicitly disclose the addition of new content to a particular server, updating state tables, and notifying other servers of the new content. IN analogous art, Mukherjee discloses another server clustering system which discloses loading data files to a client to create a new file manager (which would inherently

include the updating of internal state tables), and the new file manager will notify other clients 408 that use the affected files of the change in file manager status (which would inherently include the updating of the client's state tables) (Figure 9C; col. 15, line 49 to col. 16, line 14). It would have been obvious to one of ordinary skill in the art to combine the teaching of Mukherjee's file manager notification system to the serfer farm of Bestavros in order to notify the servers of Bestavros specifically which server is hosting which particular file, thereby ensuring that the servers have the most up to date information with which to service client requests.

4.   Referring to claim 2, Bestavros discloses the invention as described in claim 1. Bestavros does not explicitly disclose the director is selected in a round-robin fashion, rather that a request is sent to a particular host computer (see rejections above), however round-robin DNS service is well known in the art. By this rationale, "Official Notice" is taken that both the concepts and advantages of providing for round-robin DNS (i.e. selecting servers in a round-robin fashion every time a domain name request is received) is well known and expected in the art. It would have been obvious to one of ordinary skill in the art to modify the system of Bestavros to include a DNS server selecting the host computers in a round-robin fashion in order to provide an efficient method to distribute requests without bottlenecking using well known domain name protocols.

5.   Referring to claim 4, Bestavros discloses selecting the director if the content is stored on the director (i.e. based on the state of the director including availability of the resource, the director will determine whether to service or reroute the request (col. 3, lines 35-55).

6.   Referring to claim 5, Bestavros discloses the parametric information includes functional state and current load of each server (i.e. current load, which inherently includes in some way that the server is functional or not) (col. 3, lines 35-55).

7.   Referring to claims 6 and 7, Bestavros discloses the invention substantively as described in claim 5, however does not specifically disclose that the parametric information comprises whether each server comprises extended memory or an inline adaptable cache, however one of ordinary skill would find this obvious to include this into the load calculations since the inline cache or extended memory would greatly affect the ability of the server to handle connections. By this rationale, "Official Notice" is taken that both the concept and advantages of taking into account whether the server has extended memory or an inline adaptable cache into the load calculations of Bestavros is well known in the art. It would have been obvious to one of ordinary skill in the art to modify the teaching of Bestavros to include the use of extended memory or caching into the rerouting calculations since Bestavros lists numerous metrics which can be used to determine the criteria (i.e. load, data availability, type of service, etc.) (col. 3, lines 36-55). This would motivate one of ordinary skill in the art to find more

metrics which can be used to determine the rerouting criteria, eventually finding the

utilization of extended memory and caching.

8.   Referring to claim 9, Bestavros inherently discloses rejecting the request if the

content is not available on any of the servers (i.e. this is an inherent feature of HTTP,

that if a document is not found, the server will return an HTTP 404 file not found

response) (e.g. abstract).

9.   Referring to claims 10 and 11, Bestavros discloses forwarding/redirecting the

request to the particular server (i.e. reroute a request) (col. 3, lines 13-35).

10.   Claims 21, 22, 24, 25-27, 29-31 are rejected for similar reasons as stated above.

        Claims 3 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Bestavros in view of Jindal et al. (USPN 6,092,178) (hereinafter Jindal).

11.   Referring to claim 3, Bestavros discloses the invention as described in claim 1.

Bestavros does not disclose selecting a director based on a load factor analysis of each

server, the load factor analysis based on parametric information stored in a state table,

rather the request is just received. In analogous art, Jindal discloses another request

service server system which discloses selecting a server (i.e. director) based on loads

(i.e. statistical information) stored in a state table (i.e. data file 104) (e.g. abstract; col. 8,

lines 10-29). It would have been obvious to one of ordinary skill in the art to combine the teaching of Bestavros with Jindal by replacing the DNS server system of Bestavros with the load-balancing DNS server of Jindal in order to realize the benefits described in Jindal to the system of Bestavros, namely the ability to provide efficient load-balancing techniques in a DNS server as described in Jindal (col. 3, lines 10-20).

12.   Claim 23 is rejected for similar reasons as stated above.

Claims 12-19, and 32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bestavros in view of Aversa et al. ("Load Balancing a Cluster of Web servers Using Distributed Packet Rewriting"; Boston University; 2000) (hereinafter Aversa).

13.   Referring to claim 12, Bestavros discloses the invention substantively as described in claim 1. Bestavros does not specifically disclose selecting the server by calculating a load factor, identifying servers are below threshold limits, and selecting a server from the available servers with the lowest load factor, otherwise selecting a server having the lowest load factor from the plurality of servers having the content. In analogous art, Aversa discloses calculating a load factor for each server (p. 3, col. 1), identifying as available servers one or more servers whose parameters below threshold limits (i.e. determine whether host's load is less than MaxLoad), selecting a server from the available servers having the lowest load factor (i.e. "server with the lowest load is

selected") (p. 3, col. 1). It would have been obvious to one of ordinary skill in the art to combine the teaching of Aversa with Bestavros in order to better take into account the loads of the other servers of Bestavros, thereby reducing the likelihood of server overload.

14.   Referring to claim 13, Bestavros discloses the invention as described in claim 1. Bestavros does not explicitly disclose that each of the servers has the ability to broadcast function state/load information to the other servers. In analogous art, Aversa discloses another server network which discloses pushing changes to the state table (i.e. periodically broadcasting the server load information to the other servers and updating the particular loads of other servers) (section 3.2 state sharing functionality). It would have been obvious to one of ordinary skill in the art to combine the teaching of Aversa with Bestavros in order for the other servers to know of the loads of the other servers, thereby facilitating load balancing updates.

15.   Referring to claim 14, Bestavros-Aversa discloses a load balancing group, and distributing the updates to the group (i.e. the other servers are load balanced with one another (Aversa: section 3.2).

16.   Claims 15-19 and 32-35 are rejected for similar reasons as stated above. Furthermore Aversa discloses broadcasting/multicasting the load information to the other servers (section 3.2).

Claims 8 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Bestavros in view of Narendran et al. (USPN 6,070,191) (hereinafter Narendran).

17.   Referring to claim 8, Bestavros discloses the invention as described in the claims

above. Bestavros does not disclose the parametric information includes whether the

asset is a new release. In analogous art, Narendran discloses another server system

which said parametric information further includes whether each asset is a new release

(i.e. a "dummy" copy is made "active" in case of server failure) (col. 7, line 61 to col. 8,

line 7). It would have been obvious to one of ordinary skill in the art to combine the

teaching of Narendran with Bestavros in order to more efficiently route requests based

on parametric information.

18.   Claim 28 is rejected for similar reasons as stated above.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Bestavros-Aversa in view of Narendran et al. (USPN 6,070,191) (hereinafter

Narendran).

19.   Bestavros-Aversa discloses the invention as described in the claims above.

Bestavros-Aversa does not disclose the parametric information includes whether the

asset is a new release. In analogous art, Narendran discloses another server system

which said parametric information further includes whether each asset is a new release
(i.e. a "dummy" copy is made "active" in case of server failure) (col. 7, line 61 to col. 8,
line 7). It would have been obvious to one of ordinary skill in the art to combine the
teaching of Narendran with Bestavros-Aversa in order to more efficiently route requests
based on parametric information.

Response to Arguments

20.   Applicants arguments dated June 24, 2008 have been fully considered but are
moot in view of the new grounds of rejection presented above.

Conclusion

21.   The prior art made of record and not relied upon is considered pertinent to
applicant's disclosure.

22.   Applicant's amendment necessitated the new ground(s) of rejection presented in
this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP
§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37
CFR 1.136(a).

        A shortened statutory period for reply to this final action is set to expire THREE
MONTHS from the mailing date of this action. In the event a first reply is filed within
TWO MONTHS of the mailing date of this final action and the advisory action is not
mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Joseph E. Avellino whose telephone number is (571)

272-3905. The examiner can normally be reached on Monday-Friday 7:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Jeffrey C. Pwu can be reached on (571)272-6798. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

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/Joseph E. Avellino/
Primary Examiner, Art Unit 2146